

**Course offered for the PhD program  
in Civil, Chemical and Environmental Engineering  
Curriculum in Structural and Geotechnical Engineering, Mechanics and Materials  
a.a. 2021/2022 (XXXVI ciclo)**

(course is open for participation of students from other PhD cycles or programs)

**1. Title**

Introduction to Mechanics of Composite Materials

**2. Course Description**

Introduction to composite materials and their applications in mechanical of structures. Influence of reinforcement type and quantity on composite performance. Macromechanics and micromechanical analysis of a lamina. Macromechanical of a laminate (relationships for predicting the mechanical response of multi layered materials and structures). Sandwich structures and their elastic response. Particulate composites and predictions of their elastic properties. Functionally graded materials.

**3. Course Organization**

The course consists of 5 hours of lectures. The contents are developed directly by the teacher and the notes of the course are available for the students.

**4. Teacher**

Professor Roberta Sburlati

**5. Duration and credits**

The course is developed in two or three weeks in according with the students. The number of credits is 1 (5 h).

**6. Activation mode and teaching period**

The course is given in the summer 2022.

**7. Deadline for registration**

**8. Final exam**

The exam is based on a test in according with the students.